DOCUMENT RESUME

ED 464 908 SP 040 723

AUTHOR Garman, J. F.; Crider, Duane A.
TITLE HIV/AIDS Education: A Six-Year Comparison of Secondary Level Effectiveness.
PUB DATE 2002-00-00
NOTE 33p.
PUB TYPE Reports - Research (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Acquired Immune Deficiency Syndrome; College Students; *Comprehensive School Health Education; Higher Education; Knowledge Level; Program Effectiveness; *Secondary Education

ABSTRACT

Researchers conducted a comparative evaluation of HIV/AIDS education to examine alterations in practice and outcomes occurring within secondary education between 1994 and 2000. The study investigated the impact of reduced public emphasis on HIV/AIDS knowledge. Participants were students enrolled in the general health curriculum at a Pennsylvania university. They completed a self-administered survey that assessed demographics, basic knowledge of HIV/AIDS transmission and prevention, and the scope and magnitude of instruction received during secondary school. Data analysis indicated that the scope and efficiency of secondary level HIV/AIDS education resulted in a knowledgeable young adult population whose understanding of requisite information did not change significantly over 6 years. Most respondents received some type of HIV/AIDS education in secondary school. School-based instruction replaced television as the best source of information. Teaching responsibilities were consolidated more extensively with health educators, and information was presented more pervasively, in larger chronological units, and at an earlier grade level. (Contains 21 references.) (SM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

SP

ED 464 908

IMISSION TO REPRODUCE AND SEMINATE THIS MATERIAL HAS BEEN GRANTED BY

J.F. Garman

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

HIV/AIDS Education - A Six-Year Comparison of Secondary Level Effectiveness

J. F. Garman, Ph.D.
Department of Health, Physical Education and Dance
Kutztown University of Pennsylvania
Kutztown, Pennsylvania 19530
Phone: (610) 683-4373
Fax: (610) 683-1318
e-mail: garman@kutztown.edu

Duane A. Crider, Ph.D.
Department of Health, Physical Education and Dance
Kutztown University of Pennsylvania
Kutztown, Pennsylvania 19530
Phone: (610) 683-4375
Fax: (610) 683-1318
e-mail: crider@kutztown.edu

Member Institution
Commonwealth of Pennsylvania State System of Higher Education

SP 04 0723

BEST COPY AVAILABLE

Abstract: A comparative evaluation of HIV/AIDS education was undertaken to assess alterations in practice and outcomes occurring within secondary education between 1994 and 2000. Results evaluated, collectively and on the basis of response patterns to mandatory information needs, suggested the scope and efficiency of current, secondary level HIV/AIDS education continues to result in a knowledgeable young adult population whose understanding of requisite information has not changed significantly over a six-year period. School-based instruction has replaced television as the "best source" of information with teaching responsibilities consolidated more extensively with the health educator, information presented more pervasively, in larger chronological units, and at an earlier grade level.

Key Words: HIV, AIDS, Education, Prevention

Introduction: Acquired immunodeficiency syndrome (AIDS) and its precursor human immunodeficiency virus (HIV) continue to create significant global health concerns (Nicoll and Gill, 1999). Within the United States, advances in treatment coupled with vigorous public and school-based health education campaigns have produced more effective disease management (Cochran and Wilson, 1999; Kak, MacArthur, and Crane, 2000), an informed young adult population (Garman, 1997; Garman and Lottes, 1994, 1997) and reduced disease incidents (Gottlieb, 1998). As the ability to manage these diseases has improved, complacency appears to be increasing (Woodman, 1999), overt public interest is less apparent and media-based mechanisms utilized to inform and educate the public seem to be less visible. This investigation was undertaken to compare alterations in the scope and efficiency of HIV/AIDS education in secondary education

occurring prior to and at the year 2000 and to evaluate the impact reduced public emphasis has had on HIV/AIDS knowledge. It is hypothesized that the scope and efficiency of current practice continues to result in a knowledgeable young adult population.

Methodology: Participants were voluntarily recruited from students enrolled in the general health curriculum at a regional university located in eastern Pennsylvania. Subjects followed procedures previously reported (Garman, 1997; Garman and Lottes 1994, 1997). These included completing a 43 item, self-administered survey instrument designed to assess demographic variables, basic knowledge of HIV/AIDS transmission and prevention and the scope and magnitude of instruction received during their secondary experience. The instrument developed was a modification of a subject specific questionnaire, utilized by the Commonwealth of Pennsylvania's Department of Health (McKenna and Young, 1990) and included 11 questions identifying demographic variables, 13 inquiries focusing on scope of instruction, 10 questions relating to basic disease information and 9 addressing misconceptions. Data was collected during curricular offerings' initial meetings well in advance of any instruction or discussion about sexually transmitted diseases or other topics relating to HIV or AIDS. Items not answered by participants were scored as "no response" rather than as an "error." In addition to evaluating collective data, comparative assessment required the identification of four subsets of data based on response accuracy to two categories of questions. The first category was comprised of eleven questions that dealt with information that if not "learned" could be life threatening (example: Can a person who has the HIV/AIDS virus infect someone else during sexual interco... These were labeled "required"

information. Eight questions comprised the second category and were labeled "nonrequired." While these had the potential to create anxiety if not "learned," they were not considered life threatening (example: Can a person get HIV/AIDS infection from using public toilets). The four groups created, on the basis of potential responses, included: All Correct Information (AC), Error-Required Information (ER), Error-Nonrequired Information (EN), and Error-Both (EB). Generated data was compared to previously reported information (Garman, 1997; Garman and Lottes, 1994, 1997) via the use of accepted statistical procedures (Remington and Schork, 1970). Results were considered statistically significant at $p \leq 0.010$.

Results and Discussion:

Combined Groups – Within the limits of this investigation, a comparative evaluation of HIV/AIDS knowledge (Table 1) showed a modest, though non-significant, improvement from previously reported data (Garman, 1997; Garman and Lottes, 1994, 1997). Measures of central tendency for both data sets, "<2000" and "=2000" (Tables 1 and 2), identified demographically similar samples comprised of young adult, white, non-Hispanic, females who resided predominantly in suburban areas of the Commonwealth of Pennsylvania and attended public schools. Self-reported class ranks were most frequently identified as being "a little above the middle" within both samples. These similarities reflect the composition of the University's overall student enrollment (Kutztown University of Pennsylvania, 1999) and may be due to the random nature of both student and institutional acceptance criteria. The majority of participants continued to receive some type of HIV/AIDS instruction in the secondary level educational environment with most recent data noting 98.00% exposure reflecting a 6.21% increase

from prior outcomes. This gain suggests that HIV/AIDS instruction at the secondary level, for these comparative samples, continues to substantially exceed the national mean of 66% (Holtzman, et al., 1992) and surpasses both the 92.6% curricular inclusion data reported by Brener, Collins, Kann and Small (1999) and the 95% recommendation targeted as a national health objective for the year 2000 (U. S. Department of Health and Human Services, 1992). Causality for this trend in curricular inclusion may continue to lie with local, administrative understanding of disease prevalence, the finality of its prognosis, and the acknowledgement that HIV/AIDS instruction can have a favorable impact on knowledge and risk reduction (DiClemente, 1993; Walter and Vaughan, 1993). This occurrence may also have arisen from increased training opportunities resulting in enhanced subject knowledge (Brener, et al., 1999) and topical "comfort" on the part of school personal yielding a more comprehensive level of instruction as well as reduced parental objection to the topic's inclusion in curricula. However, without additional investigation, these remain speculative. The most common venue for instruction remained health class with "lecture" the most frequently employed instructional methodology. Overall, HIV/AIDS knowledge was good with both groups demonstrating scores in excess of 91.32%. Equally important, knowledge of "required" information remained high having improved from a "<2000" score of 93.68% to an "=2000" value of 95.59%. While a perfect score in this category would be most desirable, the improvement noted suggests that expanded knowledge has occurred perhaps through secondary educations' support of national disease prevention efforts (U. S. Department of Health and Human Services, 1992). Also differing modestly, though non-significantly, were the content emphasized during instruction and the source of

information participants considered "best." Previous data, "<2000," noted that prevention was the topic most frequently addressed during instruction while recent findings, "=2000," showed that greater emphasis appeared to be placed on methods of transmission. These foci appeared to reflect an ongoing commitment to the "content" suggestions identified in revised national disease prevention emphases (U. S. Department of Health and Human Services, 1996). Television, historically, proved to be participants' best source of HIV/AIDS information, but has now been replaced by the school. Quantitative data evaluating this shift is not available though this transition can be viewed as positive considering the favorable impact school-based instruction can have on high risk sexual behavior (Kirby, et al., 1994). However, anecdotally, a diminution in frequency of electronic, media-based announcements and programming appears to have occurred. This reduction in public service education, coupled with movement toward greater compliance with federal goals (U. S. Department of Health and Human Services, 1992) provides a rationale for the school as the current best source of information.

Analysis of variance identified nine variables reflecting statistically significant between group differences (Table 3). These included age, college year, graduating class size, information presented at the secondary level, receiving HIV/AIDS information in an instructional unit, graded received, most effective classroom teacher, amount of time devoted to instruction and quality of instruction. The rationale for between group variations in age and college year were difficult to identify conclusively. While students were strongly encouraged to enroll in a post-secondary health course upon matriculation, curricular interests, course availability and advisement recommendations often precluded this from happening. As a result, group differences for these variables may be due to the

randomness of student scheduling. Equally uncontrollable was secondary level, graduating class size reflecting a random function of criteria used in the University's annual admission process. Differences in other variables (Table 2) suggested a more comprehensive and aggressive approach to HIV/AIDS instruction is occurring within the school environment. In the comparative time frame of this inquiry, the topic appeared to be presented in a greater number of schools, 91.79% vs. 98.00%, and at an earlier grade level, 11th grade vs. 10th grade. Additionally, where apart of the curriculum, HIV/AIDS information appeared to reflect a greater curricular commitment by being presented more frequently as an "instructional unit" and by demonstrating an increase in the amount of time devoted to the topic from 0-3 hour to 4-6 hours. Additionally, confirming data forwarded by Brener, et al. (1999), instruction appeared to be consolidating with health education professionals who are rated, by students, as providing better quality of instruction. Rationales for these results, as previously reported (Garman, 1997; Garman and Lottes, 1994, 1997), suffers from a paucity of supporting data. However, they may be associated with local decisions pertaining to where the topic best "fits" in the secondary environment, efforts to meet suggested federal guidelines encouraging "... age-appropriate HIV education ... preferably as part of quality school health education" (U. S. Department of Health and Human Services, 1992), and an understanding that onset of sexual activity is occurring at younger ages (Centers for Disease Control and Prevention, 1998). Additionally, enhanced quality of instruction may be associated with increasing professional topical "comfort" and knowledge as well as the expanding availability of resource and instructional materials (Brener, et al., 1999).

All Correct – This subset reflected demographic characteristics similar to the

sample as a whole (Table 4). Statistically significant between group differences (Table 5) were found in the following variables: age, college year, information presented, instructional unit, class presented, quality of instruction and type of secondary school attended. Data gathered from the most recent assessment indicated that members of the "=2000" group were, on average, 1.35 years older than their earlier counterparts. As might be anticipated from this age differential, the latter group of participants were more advanced in their academic chronology reflecting a mean year in college of 2.12, an increase of 0.72 years over the "<2000" sample. While both elements received HIV/AIDS instruction at the secondary level, the most recent group's experience was pervasive with 100.00% presented information as compared to 92.86% previously. Additionally, there was a 14.42% increase in the number of participants who received information as part of an instructional unit, that is, a series of lessons. Health class increased its representation as the primary venue for disseminating HIV/AIDS information increasing from 76.19% to 92.50%. While both groups most frequently rated teaching as "good," the "=2000" sample reflected a modest comparative improvement in the quality of instruction. Showing a substantial increase of 21.91% was the number of participants who attended public school. Consistent with rationales suggested for "combined groups" outcomes, variation in age, college year, and secondary school type could be a function of university admissions and student acceptance criteria. These were uncontrollable and did have the potential to confound results. Improvement in other variables, reflecting between group differences, may be associated with an ongoing recognition of need (Nicoll and Gill, 1999) and efforts to consolidate HIV/AIDS education within a "quality health education" curriculum (U. S. Department of Health

and Human Services, 1992).

Error-Required - Continuing a pattern previously noted, members of this group reflected a predominantly young, white, non-Hispanic, female sample (Table 4). A comparative chronological evaluation of variables noted several exhibiting differences between "<2000" and "=2000" samples (Table 6). These included age, college year, information presented, grade received and school type. Consistent with collective data, this subgroup reflects characteristics previously noted, that is, it is 2.04 years older and 1.52 years more advanced in their academic course of studies than "<2000" data. All participants, in the most recent sample, received instruction during their secondary experience, an increase of 3.85% from "<2000" findings. Within this "error-required" subset, participants had material presented to them at an earlier age than noted in "<2000" results with 43.75% of the most recent sample receiving instruction in 9th and 10th grade. As before, the comparative number of participants who attended public school rose 12.98%. Non-informational related variables, that is, age, year in college and secondary school attended reflected differences for reasons previously noted in the "all correct" sample. The positive alteration in the number of participants of this group receiving school-based HIV/AIDS instruction and its presentation at an earlier grade level are noteworthy. However, other than referencing a desire to comply more fully with suggested guidelines (U. S. Department of Health and Human Services, 1992), empirical data supporting these changes are not available. Speculatively, the pervasiveness of instruction and its curricular inclusion in the 9th grade may be due to local considerations such as community or regional incidence of HIV/AIDS, frequency of other sexually transmitted diseases, or the recognition that sexual activity is occurring at increasingly

earlier ages (Centers for Disease Control and Prevention, 1998). Interestingly, increasing the presentation of information to 100.00% resulted in no significant differences in either the number of correct responses in either the "required information" of all categories. No empirical explanation for these results can be offered at this time. Potentially confounding these categorical findings is a small "=2000" sample. While conventional practice frequently accepts an experimental cell of 20 (Bruning and Kintz, 1977), reduced numbers will affect the power of the statistical tests to a degree that differences may not be detected (Bruning and Kintz, 1977). A post hoc evaluation of the sample size within the"=2000" cell, utilizing a desired power of 0.95 and both a moderate (0.50) and conservative (0.80) estimation of the "standard effect size" (Cohen, 1988) suggested a cautious approach to interpreting findings in this response category may be warranted.

Error-Non-required - Demographic characteristics for participants erring in "non-required" information can be found in Table 4. Again, these data suggest some consistency to prior findings. Age, college year, quality of instruction and school type were variables differing significantly over the intervening time course (Table 7). Mean comparative alterations in findings for age and year in college indicated an increase of 1.24 and 0.97, respectively, identifying the "=2000" groups as older and more chronologically advanced in their course of study. Student perception of the quality of instruction showed a modest improvement when compared to "<2000" data, and secondary school type continued to reflect an increased reliance on the public domain. Student perception of the quality of instruction cannot be explained with quantitative data, but may be a function, as noted earlier, of a more knowledgeable faculty who had become more at ease with the topic. Additionally, the availability of more numerous

instructional resources might also have contributed to this result. Differences in other variables may have resulted from reasons previously noted in other response groups.

Error-Both – Reflecting numerous characteristics similar to aforementioned data subsets (Table 4), statistically significant between group differences (Table 8) were found in eight variables. They were age, college year, instructional unit, grade received, class presented, quality of instruction, school type and knowledge of "required" information. Once again, this information characterizes a sample that is older chronologically and academically and who relied on public education more extensively than its earlier counterpart. These demographic variations, again, may be attributed to random selection processes noted heretofore. Additionally, it indicated a group that has increased exposure to HIV/AIDS information as a result of more pervasive presentation of materials in topical instructional units, that is, through series of lessons and at a much earlier grade level than noted in "<2000"data. As discussed earlier, these alterations may reflect responses to perceived need and adolescent sexual activity. Further, the health classroom has increased as the location for presentation with the quality of instruction noting modest improvement. These findings, again, might have resulted from school districts' response to governmental initiatives (U. S. Department of Health and Human Services, 1992), as well as increased faculty knowledge and comfort, but without further investigation they remain speculative. Percent correct "required information," though remaining less than desirable, reflected a positive change of 6.15%, but remains a source of concern. While no quantitative rationale for this pattern can be provided at this time, it needs further investigation. When you consider that gender within the "error-both" group was predominantly male in both chronological samples, and acknowledge adolescent males' predilection to engage in sexual activity (DeGaston, Weed and Jensen,

1996), identifying why better understanding of HIV/AIDS knowledge has not occurred and, more importantly, how to improve it, remains critical.

Conclusions: Within the limits of this inquiry, the following conclusions seem justified. The scope and efficiency of current, secondary level HIV/AIDS education continues to result in a knowledgeable young adult population whose understanding of requisite information has not changed significantly over a six-year period. School-based instruction has replaced television as the "best source" of information with teaching responsibilities consolidated more extensively with health educators, information presented more pervasively, in larger chronological units, and at an earlier grade level. While consolidation of HIV/AIDS education in schools and associated cognitive outcomes are noteworthy, continued efforts are warranted to further enhance knowledge of critical health information and guard against complacency.

References

Brener, N. D., Collins, J. L., Kann, L. and Small, M. L. (1999)Assessment of practices in school-based HIV/AIDS education. Journal of Health Education, 30: S28-S33.

Bruning, J. L. and Kintz, B. L. (1977). Computational handbook of statistics. New York: Longman.

Centers for Disease Control and Prevention. (1998). Youth risk behavior surveillance United States, 1997. Morbidity and Mortality Weekly Report, 47: SS3.

Cochran, A. and Wilson, B. A. (1999). Current management of AIDS and related opportunistic infections. Medical Surgical Nursing, 8: 257-64.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. New York: Academic Press.

DeGaston, J. F., Weed, S. and Jensen, L. (1996). Understanding gender differences in adolescent sexuality. Adolescence, 31: 217-231.

DiClemente, R. J. (1993). Preventing HIV/AIDS among adolescents: schools as agents of behavior change. Journal of the American Medical Association, 270: 760-763.

Garman, J. F. (1997). HIV/AIDS education: A comparison of public and non-public secondary instruction effectiveness. Education, 117: 361-370.

Garman, J. F. and Lottes, C. R. (1997). Scope and efficiency of HIV/AIDS education in non-public secondary education. Pennsylvania Journal of Health, Physical Education, Recreation and Dance, 67: 19-22.

Garman, J. F. and Lottes, C. R. (1994). Scope and efficiency of HIV/AIDS education in secondary education. Pennsylvania Journal of Health, Physical Education, Recreation and Dance, 64: 33-36.

Gottlieb, S. (1998). AIDS deaths fall by nearly one half. British Medical Journal, 317: 1032.

Holtzman, D., Anderson, J., Kann, L., Arday, S., Truman, B., and Kolbe, L. (1991). HIV instruction, HIV knowledge and drug injection among high school students in the United States. American Journal of Public Health, 81, 1596-1601.

Kak, V., MacArthur, R.D. and Crane, L. R. (2000). Treatment of HIV disease in the new millennium. Seminars in Thoracic and Cardiovascular Surgery, 12: 140-44.

Kirby, D., Short, L., Collins, J., Rugg, D., Kolbe, L., Howard, M., Miller, B., Sonenstein, F., and Zabin, L. S. (1994). School-based programs to reduce sexual resk behaviors: A review of effectiveness. Public Health Reports, 109: 339-360.

Kutztown University of Pennsylvania. (1999). Fact Book for Fall 1998. Kutztown: Commonwealth of Pennsylvania State System of Higher Education, Office of Institutional Research and Planning.

McKenna, C. K. and Young, M. L. (1990). Knowledge, Attitude and Behavior Concerning AIDS, Middletown, PA: Pennsylvania State Data Center.

Nicoll, A. and Gill, O. N. (1999). The global impact of HIV infection and disease. Communicable Diseases in Public Health, 2: 85-95.

Remington, R. D. and Schork, M. S. (1970). Statistics with application to the biological and health sciences. Englewood Cliffs, New Jersey: Prentice-Hall.

U. S. Department of Health and Human Services. (1992). Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Boston, MA: Jones and Bartlett.

Walter, H. J. and Vaughan, r. D. (1993). AIDS risk reduction among a multiethnic sample of urban high school students. Journal of the American Medical Association, 270: 725-731.

Woodman, R. (1999). UN warns that AIDS deaths are set to reach record level. British Medical Journal, 319: 1387.

TABLE I
HIV/AIDS SURVEY
GROUP CHARACTERISTICS – ALL SUBJECTS
(mean ± s.e.m.)

Variable	< 2000	= 2000
n	331	151
Age	18.84 ± 0.08	20.09 ± 0.20
Gender[a]	1.60 ± 0.03	1.56 ± 0.04
Ethnic Origin[b]	1.19 ± 0.04	1.11 ± 0.06
College Year[c]	1.28 ± 0.04	2.15 ± 0.09
State[d]	1.19 ± 0.03	1.02 ± 0.04
Residential Area[e]	2.63 ± 0.07	2.57 ± 0.05
Class Size[f]	3.06 ± 0.08	3.52 ± 0.13
Class Rank[g]	2.83 ± 0.06	2.95 ± 0.04
All Information	91.33 ± 0.59	92.47 ± 1.30
"Required" Information	93.68 ± 0.61	95.59 ± 0.47
"Nonrequired" Information	87.73 ± 0.91	86.72 ± 1.12

Notes:

a. 1 = male, 2 = female

b. 1 = White – not Hispanic, 2 = Black – not Hispanic, 3 = Hispanic, 4 = Asian or Pacific Islander, 5 = Native American or Alaskan Native, 6 = other

c. 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

d. 1 = PA, 2 = NJ, 3 = NY, 4 = other

e. 1 = urban, 2 = small town, 3 = suburban, 4 = rural

f. 1 = 1 - 100, 2 = 101 - 200, 3 = 201 - 300, 4 = 301 - 400, 5 = 401 - 500, 6 = > 500+

g. 1 = one of the best, 2 = far above middle, 3 = little above middle, 4 = middle, 5 = little below middle, 6 = far below middle, 7 = near bottom

TABLE 2
HIV/AIDS SURVEY
MOST FREQUENT RESPONSE
(%)

	< 2000	= 2000
n	331	151
Age	18 (56.01)	19 (24.50)
Gender	Female (60.91)	Female (56.00)
Ethnic Origin	White – non Hispanic (91.20)	White – non Hispanic (95.36)
State	PA (89.35)	PA (91.39)
Residential Area	Suburban (43.99)	Suburban (54.67)
School Type	Public (74.78)	Public (91.39)
Class Size	101-200 (31.86)	201-300 (24.83)
Class Rank	A Little Above The Middle (34.90)	A Little Above The Middle (40.40)
HIV/AIDS Instruction	Yes (91.79)	Yes (98.00)
Instructional Unit	Yes (55.59)	Yes (72.48)
Grade Received	11 (34.67)	10 (36.55)
Class Presented	Health (75.15)	Health (90.60)

TABLE 2 (cont.)
HIV/AIDS SURVEY
MOST FREQUENT RESPONSE
(%)

	< 2000	= 2000
Method of Presentation	Lecture (84.52)	Lecture (93.27)
Most Effective Teacher	Health (60.76)	Health (66.44)
Instructional Time	0-3 hrs. (39.44)	4-6 hrs. (39.73)
Content Emphasized	Prevention (30.43)	Methods of Transmission (37.84)
Quaiity of Instruction	Good (38.67)	Good (43.92)
Best Information Source	Television (35.88)	School (41.67)
Percent All Information (mean $\pm$ s.e.m.)	91.33 $\pm$ 0.589	92.47 $\pm$ 1.301
Percent "Required" Information (mean $\pm$ s.e.m.)	93.68 $\pm$ 0.608	95.59 $\pm$ 0.470
Percent "Nonrequired" Information (mean $\pm$ s.e.m.)	87.73 $\pm$ 0.906	86.720 $\pm$ 01.122

TABLE 3
HIV/AIDS SURVEY
SIGNIFICANT BETWEEN GROUP DIFFERENCES
ALL SUBJECTS
(mean ± s.e.m.)

Variable	< 2000	=2000	p
Age	18.84 ± 0.08	20.09 ± 0.20	<0.001*
College Year[a]	1.28 ± 0.04	2.15 ± 0.09	<0.001*
Class Size[b]	3.06 ± 0.08	3.52 ± 0.13	0.002*
Information Presented[c]	1.08 ±0.02	1.02 ± 0.01	<0.001*
Instructional Unit[d]	1.44 ± 0.03	1.28 ± 0.04	<0.001*
Grade Received[e]	2.75 ± 0.06	2.17 ± 0.12	<0.001*
Most Effective Teacher[f]	3.04 ± 0.17	3.11 ± 0.28	0.008*
Instructional Time[g]	2.10 ± 0.07	2.46 ± 0.11	0.002*
Quality of Instruction[h]	2.72 ± 0.06	2.32 ± 0.07	<0.001*

* Significance: $p \leq 0.010$

Notes:

a. 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

b. 1 = 1 - 100, 2 = 101 - 200, 3 = 201 - 300, 4 = 301 - 400, 5 = 401 - 500, 6 = > 500

c. 1 = yes, 2 = no

d. 1 = yes, 2 = no

e. 1 = 9, 2 = 10, 3 = 11, 4 = 12

f. 1 = health teacher, 2 = school nurse, 3 = school physician, 4 = guidance counselor, 5 = other classroom teacher, 6 = other school personnel,
7 = local AIDS group, 8 = Dept of health representative, 9 = other

g. 1 = 0-3 hrs., 2 = 4-6 hrs., 3 = 7-9 hrs., 4 = 10-12 hrs., 5 = > 12 hrs.

h. 1 = excellent, 2 = good, 3 = average, 4 = fair, 5 = poor

TABLE 4
HIV/AIDS SURVEY
COMPARATIVE RESPONSE CHARACTERISTICS
(%)

Variable	All Correct		Error Required		Error Nonrequired		Error Both	
	<2000	=2000	<2000	=2000	<2000	=2000	<2000	=2000
n	112	41	52	16	94	47	83	47
Age	18 (53.57)	20 (21.95)	18 (65.38)	20 (25.00)	18 (57.45)	19 (36.17)	18 (51.81)	19 (36.17)
Gender	Female (69.72)	Female (53.66)	Female (54.00)	Female (75.00)	Female (74.73)	Female (56.52)	Male (62.50)	Male (51.06)
Ethnic Origin	White (96.43)	White (97.56)	White (98.08)	White (93.75)	White (86.17)	White (95.74)	White (85.54)	White (93.62)
College Year	Fresh. (78.57)	Soph. (41.46)	Fresh. (86.54)	Fresh. Jr., & Sr. (25.00)	Fresh. (88.30)	Soph. (42.55)	Fresh. (85.54)	Fresh. (42.55)
Residential Area	Suburban (46.43)	Suburban (46.34)	Suburban (46.15)	Suburban (68.75)	Suburban (38.30)	Suburban (52.17)	Suburban (45.78)	Suburban (59.57)
School Type	Public (73.21)	Public (95.12)	Public (80.77)	Public (93.75)	Public (74.47)	Public (91.49)	Public (73.49)	Public (87.23)

TABLE 4 (cont.)
HIV/AIDS SURVEY
COMPARATIVE RESPONSE CHARACTERISTICS
(%)

Variable	All Correct		Error Required		Error Nonrequired		Error Both	
	<2000	=2000	<2000	=2000	<2000	=2000	<2000	=2000
Class Size	101-200 (29.46)	201-300 (34.15)	101-200 (34.62)	101-200, 301-400, & 401-500 (18.75)	101-200 (35.87)	101-200 (29.79)	101-200 (28.92)	301-400 (31.11)
Class Rank	Far Above Middle (38.39)	A Little Above Middle (36.59)	A Little Above Middle (55.77)	Far Above Middle (37.50)	Far Above Middle (30.85)	A Little Above Middle (46.81)	A Little Above Middle (36.14)	A Little Above Middle (42.55)
Information Presented	Yes (92.86)	Yes (100.00)	Yes (96.15)	Yes (100.00)	Yes (94.68)	Yes (97.87)	Yes (84.34)	Yes (95.74)
Instructional Unit	Yes (62.50)	Yes (76.92)	Yes (61.54)	Yes (87.50)	Yes (59.14)	Yes (70.21)	No (61.45)	Yes (65.96)

TABLE 4 (cont.)
HIV/AIDS SURVEY
COMPARATIVE RESPONSE CHARACTERISTICS
(%)

Variable	All Correct		Error Required		Error Nonrequired		Error Both	
	<2000	=2000	<2000	=2000	<2000	=2000	<2000	=2000
Grade Received	10 (37.14)	10 (34.21)	10 (28.57)	9 & 10 (43.75)	11 (33.33)	10 (36.96)	11 (45.57)	9 (37.78)
Class Presented	Health (76.19)	Health (92.50)	Health (79.59)	Health (100.00)	Health (77.78)	Health (89.36)	Health (66.67)	Health (86.96)
Method of Presentation	Lecture (71.43)	Lecture (70.00)	Lecture (70.00)	Lecture (87.50)	Lecture (68.54)	Lecture (64.44)	Lecture (55.70)	Lecture (71.74)
Most Effective Teacher	Health (64.08)	Health (65.00)	Health (64.00)	Health (75.00)	Health (57.95)	Health (51.11)	Health (57.33)	Health (80.00)
Instructional Time	4-6 hrs. (34.62)	4-6 hrs. (43.59)	0-3 hrs. (39.22)	4-6 hrs. (37.50)	0-3 & 4-6 hrs. (34.09)	4-6 hrs. (39.13)	0-3 hrs. (54.43)	4-6 hrs. (37.78)

TABLE 4 (cont.)
HIV/AIDS SURVEY
COMPARATIVE RESPONSE CHARACTERISTICS
(mean ± s.e.m.)

Variable	All Correct		Error Required		Error Nonrequired		Error Both	
	<2000	=2000	<2000	=2000	<2000	=2000	<2000	=2000
Content Emphasized	Methods of Trans. (30.48)	Methods of Trans. (37.50)	Prevention (34.00)	Basic Facts (43.75)	Prevention (32.58)	Methods of Trans. (47.83)	Prevention (28.21)	Methods of Trans. & Basic Facts (34.78)
Quality of Instruction	Good (45.37)	Good (45.00)	Good (33.33)	Good (62.50)	Good (48.35)	Good (43.48)	Average (30.86)	Average (47.83)
Beat Information Source	School (25.00)	School (39.02)	TV (42.31)	School (46.67)	TV (35.11)	School (43.48)	TV (48.78)	School (40.43)
All Information-%	100.00 ± 0.00	100.00 ± 0.00	92.35 ± 0.72	94.63 ± 0.38	91.67 ± 0.46	90.83 ± 0.74	78.61 ±1.49	82.60 ±1.85
Required Information-%	100.00 ± 0.00	100.00 ± 0.00	87.54 ± 1.08	90.44 ± 0.56	100.00 ± 0.00	100.00 ± 0.00	82.94 ± 1.39	89.09 ± 0.61

TABLE 4 (cont.)
HIV/AIDS SURVEY
COMPARATIVE RESPONSE CHARACTERISTICS
(mean ± s.e.m.)

Variable	All Correct		Error Required		Error Nonrequired		Error Both	
	<2000	=2000	<2000	=2000	<2000	=2000	<2000	=2000
Nonrequired Information-%	100.00 ± 0.00	100.00 ± 0.00	100.00 ± 0.00	100.00 ± 0.00	80.70 ± 1.04	78.60 ± 1.69	73.63 ± 2.03	78.74 ± 1.70

TABLE 5
HIV/AIDS SURVEY
SIGNIFICANT BETWEEN GROUP DIFFERENCES
ALL CORRECT
(mean ± s.e.m.)

Variable	< 2000	=2000	p
n	109	41	
Age	18.97 ± 0.19	20.32 ± 0.46	<0.001*
College Year[a]	1.40 ± 0.08	2.12 ± 0.18	<0.001*
Information Presented[b]	1.07 ± 0.02	1.00 ± 0.00	0.010*
Instructional Unit[c]	1.38 ± 0.05	1.23 ± 0.07	<0.001*
Class Presented[d]	2.09 ± 0.21	1.30 ± 0.19	<0.001*
Quality of Instruction[e]	2.52 ± 0.10	2.33 ± 0.13	<0.001*
School Type[f]	1.27 ± 0.04	1.05 ± 0.03	<0.001*

* Significance: $p \leq 0.010$

Notes:

a. 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior
b. 1 = yes, 2 = no
c. 1 = yes, 2 = no
d. 1 = health, 2 = physical education, 3 = human sexuality, 4 = marriage family living, 5 = guidance office, 6 = nurse's office
e. 1 = excellent, 2 = good, 3 = average, 4 = fair, 5 = poor
f. 1 = public, 2 = private

TABLE 6
HIV/AIDS SURVEY
SIGNIFICANT BETWEEN GROUP DIFFERENCES
ERROR REQUIRED
(mean ± s.e.m.)

Variable	< 2000	=2000	p
n	50	16	
Age	18.46 ± 0.11	20.50 ± 0.44	<0.001*
College Year[a]	1.17 ± 0.07	2.69 ± 0.33	<0.001*
Information Presented[b]	1.04 ±0.03	1.00 ± 0.00	<0.001*
Grade Received[c]	2.80 ± 0.15	1.69 ± 0.18	<0.001*
School Type[d]	1.27 ± 0.04	1.05 ± 0.03	<0.001*

* Significance: $p \leq 0.010$

Notes:

1. 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior
2. 1 = yes, 2 = no
3. 1 = 9, 2 = 10, 3 = 11, 4 = 12
4. 1 = public, 2 = private

TABLE 7
HIV/AIDS SURVEY
SIGNIFICANT BETWEEN GROUP DIFFERENCES
ERROR NONREQUIRED
(mean ± s.e.m.)

Variable	< 2000	=2000	p
n	91	46	
Age	18.85 ± 0.16	20.09 ± 0.33	<0.001*
College Year[a]	1.18 ± 0.06	2.15 ± 0.16	<0.001*
Quality of Instruction[b]	2.56 ± 0.13	2.20 ± 0.14	0.002*
School Type[c]	1.26 ± 0.04	1.09 ± 0.04	<0.001*

* Significance: $p \leq 0.010$

Notes:

a. 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

b. 1 = excellent, 2 = good, 3 = average, 4 = fair, 5 = poor

c. 1 = public, 2 = private

TABLE 8
HIV/AIDS SURVEY
SIGNIFICANT BETWEEN GROUP DIFFERENCES
ERROR BOTH
(mean ± s.e.m.)

Variable	< 2000	=2000	p
n	83	47	
Age	18.87 ± 0.14	19.77 ± 0.36	<0.001*
College Year[a]	1.28 ± 0.08	1.98 ± 0.16	<0.001*
Instructional Unit[b]	1.61 ± 0.05	1.34 ± 0.07	0.009*
Grade Received[c]	2.78 ± 0.11	1.91 ± 0.13	<0.001*
Class Presented[d]	2.53 ± 0.27	1.46 ± 0.20	<0.001*
Quality of Instruction[e]	3.09 ± 0.13	2.46 ± 0.11	0.004*
School Type[f]	1.27 ± 0.05	1.13 ± 0.05	<0.001*
Percent Required Information	82.94 ± 1.39	89.09 ± 0.05	0.007*

* Significance: $p \leq 0.010$

Notes:

a. 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior

b. 1 = yes, 2 = no

c. 1 = 9, 2 = 10, 3 = 11, 4 = 12

d. 1 = health, 2 = physical education, 3 = human sexuality, 4 = marriage family living, 5 = guidance office, 6 = nurse's office

e. 1 = excellent, 2 = good, 3 = average, 4 = fair, 5 = poor

f. 1 = public, 2 = private